

Claims

1. An isolated polynucleotide comprising SEQ ID 1.
2. An isolated polynucleotide comprising SEQ ID 2.
3. An isolated polypeptide comprising SEQ ID 3.
4. An isolated polypeptide comprising SEQ ID 4.
5. An isolated polypeptide comprising SEQ ID 5.
6. An isolated polypeptide comprising SEQ ID 6.
7. A method of directing the navigation of physiological tracking tubular structures that express Robo-4 receptor away from a target cell mass, comprising expressing a ligand of said Robo-4 receptor in said target cell mass and allowing binding between the ligand and said Robo-4 receptor.
8. The method of claim 7, wherein the ligand comprises Slit ligand.
9. The method of claim 7, wherein said physiological tracking tubular structures comprise endothelial tubes.
10. A method of directing the navigation of physiological tracking tubular structures that express Robo-4 receptor toward a target cell mass, comprising expressing a ligand of said Robo-4 receptor in a second cell mass and allowing binding between the ligand and said Robo-4 receptor.

11. The method of claim 10, wherein the ligand comprises Slit ligand
12. The method of claim 10, wherein said physiological tracking tubular structures comprise endothelial tubes.
13. A method of disrupting navigation of physiological tracking tubular structures that express Robo-4 receptor, comprising inhibiting activation of said Robo-4 receptor.
14. The method of claim 13, wherein said physiological tracking tubular structures comprise endothelial tubes.
15. A method of inducing angiogenesis in endothelium tissue expressing Robo-4 receptor, comprising inhibiting activation of said Robo-4 receptor.
16. The method of claim 15, wherein inhibiting activation of said Robo-4 receptor comprises providing a soluble form of said Robo-4 receptor to said endothelium tissue.
17. The method of claim 16, wherein the soluble form of said Robo-4 receptor comprises SEQ ID 6.

18. The method of claim 16, wherein the soluble form of said Robo-4 receptor comprises an amino acid sequence having at least 80% sequence identity to SEQ ID 6, or a fragment thereof.

19. A method of preventing angiogenesis in endothelium tissue expressing Robo-4 receptor, comprising activating said Robo-4 receptor.

20. The method of claim 19, wherein activating said Robo-4 receptor comprises providing a ligand of said Robo-4 receptor and allowing the ligand to bind to said Robo-4 receptor.

21. The method of claim 20, wherein the ligand comprises Slit ligand.

22. The method according to any of claim 7, 10 and 20, wherein the ligand comprises human Slit2 ligand, or a fragment thereof.